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June 26th.

The President, DR. HAYS, in the Chair.

Twenty members present.

The following gentlemen were elected Members of the Academy: Dr. Henry B. Butcher, Dr. Geo. Guier, Mr. Henry C. Carpenter, Mr. S. Raymond Roberts and Mr. Jason L. Fenimore.

The following were elected Correspondents: George A. Otis, M. D. Mr. William H. French, and M. de Caligny of France.

On favorable report of the Committee, the following was ordered to be published:

Descriptions of some new species of Diurnal LEPIDOPTERA.

BY TRYON REAKIRT.

1. *PIERIS YREKA*, nov. sp.

Size and form of *Pieris rapae* L.

*Male*, upper side white, base sprinkled with black atoms, extending along the costa of the primaries as far as the end of the cell; a narrow black terminal line at the apex, and below this a few scattered black specks; a rounded black spot on the medio-superior interspace, midway between the cell and the margin. Secondaries with a small black spot on the costa, at two-thirds its length from the base; fringes white, expanse 1.88 inches. Underneath, the apex of the primaries is pale ochrey yellowish; an additional small black spot is in the medio-inferior interspace, otherwise as on the upper surface. Secondaries pale ochrey yellowish, thickly strewn with grayish or greenish-brown atoms, especially condensed towards the base; costa yellowish orange.

Body above black, with scattered whitish hairs; below white. Antennæ black, ringed with white; club tipped with white.

*Female* differs in having a large triangular apical patch, brownish-black, of which the lower portion is densest, upon the primaries, and in the enlargement of their central black spot, and also in that of the costal one upon the secondaries.

Below, the primaries as in the *male*, the hind wings much more yellowish.

*Hab.*—California. Coll. Tryon Reakirt.

2. *PIERIS CASTORIA*, nov. sp.

Size and form of *Pieris oleracea*, Harris.

*Male*, upper side pure white, inner half of costa of primaries, and base of both wings, strewn with a few dark atoms; a rounded black spot in the medio-superior interspace of the fore wings, situate as in the preceding species; no other markings; fringes white, expanse 2—2.12 inches.

Underneath immaculate white; a faint yellowish tinge on the apex of the primaries, and along the costa of the secondaries.

Body black, with whitish hairs below; antennæ black, with incomplete white annulations interrupted above. Club yellowish, or yellowish brown at tip.

*Hab.*—California. Coll. Tryon Reakirt.

3. *PIERIS OCCIDENTALIS*, Reakirt.

Reakirt, Proc. Entom. Soc. Philada., 1866 (ined).

*Hab.*—California, Rocky Mountains. Coll. Tryon Reakirt.

I have an example of *Pieris Sisymbrii*, Boisduval, from Northern California, of which the ground color is a very clear lemon yellow; it differs, however, in no other respects from types of the same.

4. *CALLIDRYAS THAURUMA*, nov. sp.

*Male*, very similar on the upper side to *C. Hilaria*; the irregular outline of

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the sulphureous basal portion remaining the same; there is, however, an oblong black discal spot upon the primaries, and the black terminal line of *Hilaria* is either entirely wanting, or represented only by a few faint atoms; the nervular extremities of the secondaries are marked by minute dark points.

Under side greenish white, crossed with innumerable waved darker lines upon the upper half of the primaries and their apex, and over the secondaries. Costa of primaries continuous reddish brown for a short distance from the base, followed by scattered points thence to the apex, and along the outer margin, all of the same color; also an indistinct line running in from the apex: a large rounded ferruginous discal ocellus, pupilled with violaceous-silvery; base suffused with yellow; an orange streak within the cell.

Secondaries darker than the primaries, lightened with pale greenish white above the subcostal and median veins; a small silvery spot, encircled with ferruginous, on the lower disco-cellular, and six minute rosy, or rose-brown spots, one in each interspace, midway between the cell and outer margin.

Fringe greenish white; expanse three inches.

Thorax black, covered with long greenish-yellow hairs; abdomen and lower portions greenish-white; antennæ rosy or ferruginous, darker on the club.

*Female*, base of both wings pale yellowish-white; the mesial portions become more yellowish, and the depth of color is gradually increased to yellowish-orange on the outer margins; a large rounded black discal spot on the primaries; a bright ferruginous border at the apex, and on the outer margin, extending below half its length, at first continuous, afterwards maculate; interior to this, a maculate series, similarly colored, bent nearly at a right angle, just below the apex, and terminating at the costa on the one side, and on the other just above the end of the marginal border.

Below, bright ochreous-yellow; the markings of the *male* remain constant, with the difference in color, with the reappearance of the interior bent band of the fore wings, and the addition of a rounded, ferruginous spot within the cell of the secondaries, obliquely above the discal ocellus; the six submarginal spots of the same wing are considerably enlarged.

Fringe yellowish orange; expanse 2.65 inches.

Body above, abdomen and antennæ as in the *male*; thorax below, bright ochre-yellow.

*Hab.*—Madagascar. Coll. Tryon Reakirt.

##### 5. *TERIAS JAMAPA*, nov. sp.

*Female*? Above pale sulphur yellow; fore wing costa strongly arched; apex rectangular; outer margin from the middle curved outwards, and deeply crenulated; a large apical black patch extending from the outer third of the costa, nearly to the inner angle; its anterior outline presents two short terminal, nearly straight lines, and three prominent curves, of which the upper is double the length of either the others, but shallow, while the lower two approximate to a semicircle in form, and are of considerable depth.

Hind wing with the outer margin between first and second median veinlets produced into a longish pointed lobe, nearest the second branch, and partially entered by it; the ends of the nervules marked by minute dark points, otherwise the secondaries are immaculate.

Underneath, the apex of the primaries and the secondaries are suffused with ochreous, and reticulated with fine ferruginous lines; white atoms are sprinkled over the surface, and in some places, form condensed spots; three of these are situated below the cell and first veinlet, another at the upper end of the first disco-cellular, and several on the costæ of both wings; a small black discal spot on the primaries, and a number of minute black points on the lower outer margin of the secondaries.

Expanse 1.55 inches.

*Hab.*—Mexico (near Vera Cruz). Coll. Wm. H. Edwards.

Mr. Wm. H. Edwards, of Newburgh, N. Y., has kindly placed in my hands, 1866.]

for examination, a series of Mexican Rhopalocera, descriptions of a number of which will be found scattered throughout this memoir.

6. *TERIAS SOLANA*, nov. sp.

*Male*. Upper surface : primaries yellow, becoming whitish on the inner margin ; costa thickly strewn with greenish-black atoms ; a large black apical patch running from the middle of the costa to the first median vein, along which it is continued to the outer margin ; the interior outline of this patch is somewhat crenulate.

Secondaries white, yellowish only at the apex, on which there are two large black conical spots ; short black lines run up the upper nervules from the outer margin.

Below the base and central portion of the primaries are yellow, becoming whitish on the inner margin ; the apex of the same and the secondaries are ochreous, strewn with multitudes of dusky atoms, of which there are three principal condensed rows on the latter ; all short, and none extending entirely across the wing ; there are two small discal spots upon each wing, the upper upon the hind wings forming the terminus of the first atomic line.

Fringe yellowish, becoming pale ferruginous at the apex of the primaries, and towards the anal angle of the secondaries ; expanse 1.5 inches.

Thorax above black, with whitish hairs, and three short dark stripes ; abdomen whitish, with a narrow dark dorsal line. Thorax underneath ochreous, abdomen pure white ; antennæ black, with white annulations.

*Hab.*—Mexico (near Vera Cruz). Coll. Wm. H. Edwards.

7. *EUPLEA PAPUANA*, nov. sp.

*Male*.—Upper surface dark velvety brownish-black, paler on the outer margin of the fore, and upon the hind wings ; two long, rather narrow dull brown vittæ in the medio-posterior interspace ; a submarginal row of seven chalk-white spots, fringed with bluish ; of these the first two are respectively above and below the fifth subcostal veinlet, both being larger than any of the following,—the second mostly so,—and in each of the ensuing interspaces there is one, the fourth being the least, and the seventh tripartite, composed of two small lunes and a dot ; there are three minute dots nearer the margin, obliquely below the fourth, fifth and sixth spots respectively.

Secondaries with a submarginal row of ten spots, of which seven are oval ; the main axis of the first three is placed transversely to that of the others ; the eighth and ninth are rounded, and the tenth a narrow streak ; following these is a marginal series of small dots, obsolescent towards the outer angle.

Under surface, the submarginal row of above is reproduced, having added a small spot nearer the costa. There is also a marginal series of eleven small rounded spots ; a small bluish spot above the upper radial, near the cell, another within the cell, and a third, considerably larger, in the medio-superior interspace ; a small oblong patch of appressed hairs in the medio-central interspace.

Secondaries have two white spots at the base of the wings ; the submarginal series of above, and a marginal row of twelve, the last coalescing with the terminal one of the preceding row ; a minute spot in the medio-superior interspace.

Color of under side shiny brown, darkened at the base of the primaries.

Fringe brown and white alternately ; expanse 3.5 inches.

*Hab.*—New Guinea. Coll. Tryon Reakirt.

I am not quite sure of the specific distinctness of this beautiful Danaid ; many of the published descriptions of the members of this genus are extremely imperfect, and the insects themselves so subject to variation that it is very difficult to determine them correctly, without comparison with the original specimens.

AMAUROS, Hübn.

*Amauris*. p., Hübn.

*Danaïs*, (Sect. I.) E. Doubleday.

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"The males have a patch of peculiarly formed, and closely placed scales, situated on the sub-median nervule of the posterior wings, not far from the outer angle.

"The males of the first group have the anterior tibiae and tarsi covered with closely appressed scales."—*E. Doubleday*.

There exists no sufficient reason why Hübner's genus should not be recognized as valid, and the few species composing it be separated from the great mass of the Danaides.

Geographically, structurally, and in coloration, they differ as much from their former congeners, as is possible within the range of a closely connected family; and it seems to me, that only from a total misapprehension of the rules of genetic formation, could such a naturally well defined group have been merged into another of opposed forms.

The four species of which it has been hitherto composed are all essentially African, as will be seen from the following summary:

1. *Amauris phædon*, Fab. Mauritius.
2. " *echeria*, Stoll. S. Africa.
3. " *egialea*, Cram. W. Africa.
4. " *niavius*, Linné. W. Africa.

To these well known species I now add a fifth, to which Dr. Boisduval has given the MS. name of *Danaïs ochlea*; its description follows.

8. *AMAUROS OCHLEA*, Boisd. sp.

*Danaïs ochlea*, Boisd. MSS.

*Male*.—Upper surface: primaries rich velvety black; a transverse sub-apical white band, cut in three parts by black veinlets; another much larger transverse band occupies the lower central portion of the wing, extending from the subcostal to the submedian vein, and is divided by the black median nervule and first branch into three large white patches; a small rounded spot near the apex; two others on the costa, between the transverse band, above the upper of which there is also a minute narrow dash, and three more near the outer margin, placed between the lower portion of the first band and the inner angle: of these the first is the largest; between the first two of these spots and the margin there are three very minute dots. All of these markings white, or pale glaucous white.

Secondaries dark brownish-black; a large semi-transparent white space occupies the basal and mesial areas, extending from the costal nervure to the abdominal margin, divided into ten spots by the black veins and veinlets; three submarginal white spots on the upper half of the outer margin.

Fringe black, alternated with white on the hind wings; the primaries are cut with white only near the middle of the outer margin; expanse three inches.

Underneath chiefly as above; the apex of the primaries and the terminal border of the secondaries become brownish. Upon the first there is an additional small apical spot, and in place of three marginal spots there is a row of seven, the two lower coalescing with the third submarginal spot. The secondaries have a white spot at their base, and two submarginal rows, composed respectively of eleven and thirteen white spots.

*Hab*.—Zambesi. Coll. Tryon Reakirt.

9. *MECHANITIS UTEMAIA*, nov. sp.

*Female*. Upper surface: primaries, basal two-thirds orange tawny, occupying all the area within a line drawn from upper third of the costa to the middle of the outer margin. In addition to the usual costal stripe, a narrow terminal line along the lower part of the outer margin, and a streak along the submedian vein, but not touching the inner margin, there are four other spots, all black, placed thus: one, trapeziform, within the cell, and one, rounded and smaller, between the first and second median branches; a broad bar across the end of the cell, and a narrow, curved, widening at-the-tip line runs up the

medio-central interspace, from the outer margin; a bent opaque yellow belt, fringed with orange tawny, marks the extremity of the latter area, and another, abbreviated, rises from the costa between the discal bar and spot. The apical portion of the wing is black, traversed by a broad opaque yellow bar, also shading into orange tawny.

Secondaries with a transverse maculate stripe, and a border, terminal, black; on this last some indistinct white spots; remainder of wing orange tawny.

Under surface of both wings chiefly the same, with the addition of seventeen white marginal spots; the abbreviated yellow bar of the primaries extends here from the costa to the median vein; on the secondaries there is a black costal stripe, in addition to the markings of the upper surface, the space between which and the discal one is tinged with yellowish; the base is also marked with a yellow spot; expanse 3.25 inches.

Thorax and abdomen above, blackish-brown, the first with a central yellow stripe; wing tippets orange tawny; below yellowish. Antennæ yellow, ringed with orange tawny, black towards base.

*Hab.*—Honduras. Coll. Tryon Reakirt.

Very similar to *M. lysidice* and *doryssa*, Doubldy., and Bates, and in common with both, is a local race of *M. polymnia*. Specimens of the first are in my collection, from the same locality, and for a fine example of the second, from Guatemala, I am indebted to Mr. H. W. Bates.

#### 10. MELINÆA PARAIYA, nov. sp.

*Male.* Upper surface; apical half of fore wings dark brownish-black, with a very irregular interior outline, closely resembling that of *M. Egina* as far as the first median veinlet, thence it is curved inwardly, and terminates in an attenuated line on the basal third of the hind margin; across this there are two equidistant, semi-opaque yellow bands, of which the apical is continuous, and the other is divided into three spots, the central one being much the least; there is also a sub-marginal row of small white spots, varying from six to ten in number; the basal third of the surface, excepting the costa, throughout its entire length, which is black, is rich orange tawny, and the space between this and the outer black portion is occupied by a broad semi-opaque yellow belt; within the cell there are two large rounded black spots, which mark the chromatic line of separation.

Secondaries orange tawny, with a broad black outer margin, on which appear some indistinct spots, and a discal series of six oblong black spots, unconnected with the terminal border, and of which the second is very large, whence they gradually diminish to the abdominal margin.

Underneath the primaries remain chiefly as above. The secondaries have the base marked with yellow; a short black bar runs along the costal veins from the base, and there are one or two additional spots on the apical end of the discal row; the black outer margin also contains eleven or twelve small white spots. Expanse 3—3.75 inches.

Antennæ black, becoming tawny ash-colored on their outer third. Thorax black, with a yellow dorsal stripe; wing-covers and collar orange tawny, dusky yellow beneath; abdomen brown above, marked with orange tawny on the upper part of the first two segments, a broad yellow ventral stripe, and two narrow lateral yellow lines, reaching only to the end of the second ring.

*Hab.*—Rio Janeiro; St. Catherine's Island, Brazil. Coll. Tryon Reakirt.

Taken in company with *Hel. Eucrate*, *Mech. Lysimnia*, *Napeog. Sulphurina*, and *It. Euritea*.

It is a local race of *Mel. Egina*, but mimics neither the Heliconoid nor Danaid form with which it is associated.

#### 11. HELICONIUS WALLACEI, Bates, in litt.

*Hel. clytia*, var. Bates, Trans. Linn. Soc., p. 556, n. 6 (1862).

"The first yellow belt of the fore wing is narrow, and similar in shape to the first white belt of *H. Antiocha*."

*Hab.*—Amazons. Coll. Tryon Reakirt.

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12. *EUEIDES ZORCAON*, nov. sp.

*Male*. Upper surface: fore wings black; four transverse bands, of which the apical is composed of four oblong spots; the second crosses the cell near its extremity, and consists of two dashes above the cell, an irregular narrow one within it, and a long, gradually tapered stripe below it. Both these bands are entirely dull ochraceous; the third rises from the base, follows the first median veinlet to its middle, up to which point it is orange tawny, is then suddenly turned above this nervule, and runs nearly to the outer margin; this latter portion is ochraceous, and is much compressed near its lower extremity; the fourth is orange tawny, and occupies the length of the inner margin below the submedian vein.

The hind wings are black, with a broad central orange tawny belt, through the middle of which passes a black band, sometimes united with the outer border towards the apex, and usually narrowed towards the abdominal margin; there is a row of indistinct spots on the outer margin, especially prominent near the anal angle.

Under surface; disposition of fore wings' markings remains the same, but they are much reduced, with a consequent increase of the black and blackish-brown areas; the costa has a short basal stripe of orange tawny, and there are three or four small white apical spots.

Secondaries chiefly as on the upper side; there is an additional transverse stripe, ochraceous, running from the base nearly to the outer angle, and marked on its under side at its origin with a white point; two rows of well-defined white points on the outer margin, of which the interior, numbering fourteen, are the largest; the outer row contains fifteen. Expanse 3—3½ inches.

*Hab*.—Mexico (near Vera Cruz); Coll. W. H. Edwards. Honduras, Guatemala; Coll. Tryon Reakirt.

As may be seen from the foregoing description, this pretty species bears considerable resemblance to *Eueides Cleobæa*, Hübn. I find, however, from the examination of a large number of specimens of both, that their differences are always constant, and such as warrant the creation of a separate name for the designation of this form, which, although doubtless a local race of the *Cleobæa*, has become perfectly segregated from the older type; I have seen no intermediate varieties.

13. *ACRÆA ORIZAVA*, nov. sp.

Upper surface glossy bluish-black; primaries with a large transverse yellow spot, divided by the median vein and its branches into five parts.

Beneath pale ochreous, with the nerves, and streaks between them, black; a very large central yellow patch on the fore wings, crossed only by black veins; base of the fore wing black, that of the secondaries more yellowish. Expanse 2.25—2.50 inches. Body and antennæ black.

*Hab*.—Mexico. Coll. Tryon Reakirt.

Closely allied to the *A. leucomelas*, Bates, of Guatemala, of which it may be regarded as a more northern modification. It differs chiefly, but constantly, in size and number of the yellowish spots of the primaries.

14. *AGRAULIS HUASCUMA*, nov. sp.

Upper surface bright orange-brown; markings of primaries as in *A. Juno*, but much narrower, more clearly defined, and always deep black. Secondaries with a broad terminal border, containing a series of orange-brown lunules.

Underneath, the markings present no perceptible difference from those of *Juno*, but the shades are darker, the silver spots more clearly defined, and the base of the fore wings much more reddish than in that species. Expanse 2.50 to 2.75 inches.

The outer margin of the primaries is not so deeply sinuate, nor are the indentations of the secondaries so prominent as in *Juno*.

*Hab*.—Mexico. Coll. Tryon Reakirt.

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A local race of *Junco*, differing but slightly from the Equadorean form *Andicola*; these are constant, however, in regard to the coloration and shape of the wings; in the latter respect, it approaches more nearly to *Lucina*, Felder.

15. *EUTERPE ARECHIZA*, nov. sp.

*Male*. Fore wings narrower and more sinuate than in *Bithys*; the hind wings dentate. Upper surface brownish-black, traversed by two maculate, white bands; the first extends from the outer third of the costa of the fore wings, to the middle of the abdominal margin of the hind wings, consisting on the first of eight widely separated spots, on the last the band is broken only by the dark veins; the second band is formed of small rounded white spots, running obliquely from the costa of the primaries to their inner angle, and sub marginally all equidistant from the border, on the disc of the secondaries; there are also some minute white terminal streaks at the apex of the fore wings, and some marginal ones in the middle of the hind wings' interspaces.

Underneath pale brown, with darker shades between the veins of the hind wings; the terminal streaks on the outer margin of the primaries are yellowish. The inner band of the secondaries is striped narrowly with yellow lines, beside which there are some small spots and dashes near the base, and the submarginal and marginal rows, all yellow; there are also two red basal patches. Expanse 1.75—2 inches.

Body and antennæ as in *Bithys*:

*Hab.*—Mexico. Coll. Tryon Reakirt.

A local race of *Eut. Bithys*. In addition to the differences in ornamentation and the shape of the wings, I have found that in *Arechiza* the disco-cellulars of the fore wings form but a very slight angle with each other, and the second subcostal veinlet of the secondaries is invariably thrown off much nearer the base than in *Bithys*; the difference in distance being fully equal to one-half the distance between the first and second subcostal veinlets of the latter species.

16. *LYCÆNA CATALINA*, nov. sp.

*Male*. Upper surface brown, glossed with violet blue, except a broad terminal border on both wings. Fringes white, cut with brown.

Under surface ash-brown, darkest at the base of the secondaries, more diluted on the outer margin of the primaries.

The fore wings have two spots within the cell, one at its extremity, the other nearer to the base; a submesial sinuated row of six rounded and oblong spots; and a submarginal row of six lunes; all brown, or blackish-brown encircled with white; the outer row is usually incomplete, and sometimes almost obsolete.

The secondaries have the main portion of the cell occupied by a large whitish spot, running up to the base, and having a rounded black spot in its centre. Between this and the outer margin there is a broad and similarly colored belt, formed of confluent sagittæ, each of which is preceded by a rounded black dot, encircled with white, and followed by a narrow black crescent. Below the third of these from the inner margin, there sometimes appears an ochreous lune, upon which is impinged posteriorly a brown bar, tapering gradually to the hind margin. There is another white-ringed black spot on the costa, above the similar one within the cell. Expanse 1.13—1.20 inches.

Body blackish-brown above, with some blue hairs on the thorax, underneath cinereous. Antennæ black, ringed with white; club tipped with the same.

*Female*, appears to differ only in the greater size; expanse 1.25—1.30 inches.

*Hab.*—California. (Coll. Tryon Reakirt.)

17. *LYCÆNA MONICA*, nov. sp.

*Male*. Upper surface rosy violet, covered with an ashy hue, darker towards

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the base; a narrow terminal black line runs along the outer margin of both wings; near the anal angle of the hind wings, this is preceded by a narrow white line, above which there are two rounded black spots, the interior being the largest. Hind wings with a single tail, black, tipped with white. Fringe brownish; expanse 1.05—1.12 inches.

Underneath whitish ash colored; a long discoidal streak, and three transverse rows of dark ash-colored dashes, of which the two outer are close together, running parallel with each other, and also with the outer margin, to which they are very near; the inner one is midway between the margin and the discal bar; it is slightly sinuated; each of these rows is composed of six oblong dashes, all being surrounded by whitish lines from the ground color.

On the secondaries there are also three transverse maculated bands, containing the same number of spots, but differing in shape; those of the inner row only are oblong, those of the central being lunulate, and of the outer rounded; the two interior spots of the marginal row are jet black, glossed with some greenish metallic atoms, and are surmounted by two large orange yellow lunes; a discoidal bar as on the primaries, and three rounded black spots encircled with whitish, situated transversely near the base, one on the costa, another within the cell, and the third on the inner margin; a similar spot, sometimes only ash-colored, on the middle of the costa; a narrow terminal line along the outer margin of both wings; tail as above; fringe brownish-griseous.

Body above black, with some reddish-violet hairs, underneath whitish; antennæ brown with white annulations, club reddish-ochreous.

The *female* is larger,—expanse 1.20 inches, and has the two black spots on the upper side of the secondaries, surmounted by orange lunules, sometimes indistinct.

*Hab.*—California. (Coll. Tryon Reakirt.)

Belongs to the group of which *Comyntas* is the type; it is more nearly related to the following new form, than to either that species, or its Californian prototype—*Amyntula*.

18. *LYCÆNA TEJUA*, nov. sp.

*Male.* Upper surface very similar to that of *Monica*, but with more of a bluish tinge; a narrow terminal line as in that species, but edged anteriorly with white, over the whole length of the secondaries, upon which there is only one black spot; tail double the length of that in *Monica*; fringe whitish, on the secondaries cut with black at the ends of the veins.

Underneath there are three transverse bands on each wing as in *Monica*, but arranged differently; the spots of the two exterior on the primaries are almost confluent, and the inner one is broken into two divisions—the spots in each running together; the upper consisting of four, and the lower, which is nearer to the base, of two; a discoidal bar, and a small spot on the costa between this and the inner transverse band.

On the secondaries the two outer rows remain the same, having, however, but one large black spot, surmounted by a very large pale orange-yellow lunule; rarely there are traces of another yellow spot interior to this; the inner band is formed very irregularly, and presents very much the appearance of a W; discoidal bars, and basal spots as in *Monica*.

*Hab.*—California. (Coll. Tryon Reakirt.)

19. *LYCÆNA MARICOPA*, nov. sp.

*Male.* Upper side brown, glossed with violet blue; a narrow terminal dark line along the outer margins; a black discal bar on the primaries, sometimes wanting, and some obsolete rounded spots on the hind margin of the secondaries. Fringe ash-colored.

Underneath ash-brown, darkest towards the base. Primaries: a large black discal bar; a subcentral, transverse, sinuated row of seven large rounded black spots all narrowly ringed with white; following these, and parallel with the

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margin, another series of seven indistinct spots. Secondaries: a discal bar and two spots, one within the cell, the other above it; three transverse maculate bands; the first composed of eight large rounded black spots, and bent twice at right angles, the second of smaller, and sagittiform, and in common with the third, which is almost marginal, and very indistinct, runs parallel with the border; all these markings are encircled with white, and the seventh spot of the first and second rows are sometimes confluent. Expanse 1.25—1.35 inches.

Body black above, with some bluish hairs; beneath grayish; antennæ black with white annulations, lower part of club whitish.

*Hab.*—California. (Coll. Tryon Reakirt.)

20. *LYCÆNA TEHAMA*, nov. sp.

*Male.* Upper surface, brownish diluted with white, glossed with shining greenish blue, especially on the basal portions, and traversed by darker lined veins.

A black discal bar on the primaries; secondaries have a marginal series of rounded brown spots. Fringe white; brownish at the tip of the fore wings, and cut with black at the ends of hind wings' veins.

Underneath: primaries pale brownish griseous; a discal arc, a small double spot within the cell at one-third the distance from the arc to the base, a sinuate transverse median row, and an indistinct marginal row of spots, followed by a series of plainer lunules, all edged with white.

Basal half of secondaries dark brownish-gray, with a blue tinge at the base; within this are three small black spots, all largely encircled with white, and placed transversely to the base, and a large white patch at the end of the cell.

Posterior portion clear grayish white, edged terminally with a narrow line, and contains three transverse rows of dark spots; of these the interior are rounded and much curved; the central are lunulated, and the marginal rounded; the third from the anal margin of the two outer rows respectively are much enlarged, and sometimes embrace an intermediate, yellowish-brown lunule. Expanse 1.05—1.13 inches.

Body clothed with grayish blue hairs above, ash-colored below; antennæ black, annulated with white; club black above, ferruginous below.

*Hab.*—California. (Coll. Tryon Reakirt.)

*Var. a, male;* the secondaries present a submarginal row of connected brown lunules above the marginal spots; and the lustrous tinge is restricted to the basal area; expanse 1.20 inches.

*Hab.*—Los Angeles, Cal. (Coll. Tryon Reakirt.)

This is the Pacific representative of *L. Rustica* Edwards, of the Rocky Mountains; the two are very closely related.\*

21. *BRENTHIS MORRISII*, nov. sp.

Upper surface uniform orange-brown; hind margin of both wings edged by a fine black line, always dilated at the ends of the veins, and which is preceded by a submarginal row of very angular black lunes; in the *female* the spaces enclosed between the two lines is pale tawny; primaries have a nearly straight black discal bar, and within the cell are three transverse spots, of which the central is the shortest; below the cell a broad black stripe runs from the origin of the first median veinlet, downward half the width of the interspace, and is then bent abruptly to the base, in the shades of which it becomes merged and lost. Beyond the cell, there is a mesial zigzag band, and a transverse row of rounded black spots, usually confluent with the marginal lunes on the apex; a short black bar rises from the costa behind these.

\* There will shortly be published by the Entomological Society, in a series of notes to my memoir, upon "Coloradian Butterflies," descriptions of the following new Californian species:—

1. *Ctenonympha Pamphiloides*, Reakirt.

2. *Lycæna Cujona*, Reakirt.

3. *Polyommatus Mariposa*, Reakirt.

On the secondaries, in addition to the transverse row of large rounded black spots above the marginal lunules, there are four connected oblique black dashes below the cell; a black mark very much like a K within and above it, and a central rounded black spot within it; basal portions of both wings obscured by darker shades; fringe pale yellowish cut with black; expanse ♂ 1.70—1.75 inches—♀ 1.87 inches.

Under surface: primaries pale tawny, tinged with brownish red at the base, especially in the *female*; apical portion pale ochreous, or even yellowish crossed obliquely by a brick-red shade; the markings of above repeated, but faintly colored, and in the *male* the discal arc and central spot within the cell, each contain a narrow tawny line.

Secondaries with a broad central band of nine large connected spots, of which the first, fourth and seventh are the largest, all edged on either side with narrow black lines, and all with the exception of the fourth, which is silvered, pale buff-yellow. The space anterior to this is brick-red, with three pale yellow and one silvered spot near the base, and a yellow dot pupilled with black in the middle of the cell. The posterior half of the wing is pale buff; a series of seven marginal silvery patches, surmounted by elongated brownish sagittæ, shading into brick-red towards the outer angle; above these, a transverse row of rounded brick-red and brownish spots, the middle ones usually ocellated, and there are two flexuous brick-red lines between these and the central band; a narrow black terminal line, edges the outer margin of the wings.

Body black, covered with brownish red hairs, underneath tawny.

*Hab.*—California. (Coll. Tryon Reakirt.)

It affords me much pleasure to dedicate this beautiful species to my esteemed friend, Mr. Henry B. Morris, of Burlington, N. J.

Dr. Behr seems to have seen neither this nor the following form when he prepared his very valuable list of the "Argynnides of California."

## 22. BRENTIS NENOQUIS, nov. sp.

*Male.* Fore wings slightly, hind wings much dentated. Upper surface tawny; a terminal line; a series of confluent marginal lunules also connected with the bordering line; a transverse row of large rounded black spots; a zigzag mesial band of large irregular spots and dashes, and the usual markings within the cell and towards the base of all the wings; all these, and very considerable basal area, deep black; fringe yellow, cut with black.

Underneath the primaries are tawny, becoming pale buff-yellow on the apical area, across which there is a violet brown shade and on the outer margin; the markings of above repeated but much diminished in size, and lightened in color.

Hind wings buff-yellow, mostly saturated with a rich violet-brown shade; a large silver spot at the base, cut by the costal vein; two rounded yellow, or silvery-yellow spots in the upper part of the cell, edged with a narrow black line; below these, two oblong velvety brown bars, one in the cell, and the other in the first median area, two small rounded silvery spots on the abdominal margin near the base, each ringed narrowly with black; an incomplete transverse maculate band of seven connected spots, of which the first, fourth and seventh, are much the largest, and are always silvered, the others, very rarely so; those mentioned are always bordered anteriorly with a narrow black line; and all of them posteriorly with dark violet brown; a submarginal row of six rounded dark brown spots, the third and fourth always pupilled with ochreous, the others rarely so; seven marginal lunules, of which the six superior are silvery, that on the anal angle bright yellow; a narrow terminal line edges all the wings; expanse 1.5 inches.

*Hab.*—California. (Coll. Tryon Reakirt.)

Closely related to no species hitherto described; probably is nearest to *Monticola*, Behr, but is very much less in size, besides possessing a radically different ornamentation.

1866.]

23. *EMESIS TOLTEC*, nov. sp.

Upper surface dull reddish-ochreous brown; a broad transverse paler band occupies the middle of both wings, the space between it and the base traversed by numerous transverse waved lines, made up of many connected dashes and lunules; beyond the broad central belt there is a confluent row of darker lunules, widest on the costa, and gradually tapering to the abdominal margin; after these there is a submarginal row of rounded dark-brown spots, of the same range as the preceding; fringe brown; expanse 1.5 inches.

Primaries have the apex produced, and outer margin sinuated; secondaries rounded.

Underneath ochreous-yellow, with the spots of above repeated in ferruginous, a large patch of that color at the apex of the primaries, and another across their middle; a faint ferruginous tinge at apex of secondaries.

*Hab.*—Mexico. (Coll. Wm. H. Edwards.)

Very distinct from any of our described species.

24. *SYNCHLOE QUEHTALA*, nov. sp.

Upper surface black; an abbreviated band of four ovoidal white spots runs from the costa across the end of the cell of the primaries; a transverse curved row of seven minute white spots beyond the short band, and a larger white spot near the middle of the outer margin; secondaries with a small red spot near the anal angle, sometimes indistinct; fringe black cut with white; expanse 1.38 inches.

Under surface brownish black; primaries spotted as above, but with the markings enlarged and with two additional white spots on the outer margin; costa red at the base. Secondaries with a broad yellow mesial belt, extending from the costa nearly to the first median veinlet; a submesial transverse row of minute white spots, a large red spot at the anal angle, and three white lunules on the outer margin, of which two are close together at the apex, and the third on its lower half.

Body and antennae black; legs reddish.

*Hab.*—Mexico. (Coll. W. H. Edwards.)

This is the least species of the interesting genus *Synchloe*; it approximates most nearly to *Hippodrome*, although still very distinct, and less than half its size.

25. *PAPILIO ERIDAMAS*, nov. sp.

*Male.* Upper surface black, faintly glossed with bluish-green; a long streak followed by an oval spot, both yellow, or yellowish-green, below the upper third of the costa of the primaries; a submarginal row of similarly colored spots near the outer border, becoming obsolete towards the apex; primaries sinuate; secondaries dentate, with a short elongated tooth, emarginations of both yellowish.

Secondaries with a submarginal row of seven large crimson spots, widely distant from each other, of which the first three are oval; the fourth semi-ovoid and larger; the fifth, and largest of all, is almost rectangular, with an indentation upon the lower extremity; the sixth intermediate in size between the fourth and fifth; the seventh is nearly square, about the size of the third, and with indentations on both sides; these are immediately followed by, and connected with yellowish spots, largely so after the first and gradually reducing to obsolescence under the last; expanse 3.5 inches.

Under surface lustrous brown, paler at the tips of the primaries, upon which, also, the subcostal ovoid of the upper side is indistinctly reproduced.

Secondaries with three crimson spots at the base, and a submarginal row of small, brilliant spots of the same color, the three nearest the anal angle being chevron-shaped, and the other four semi-lunate.

Body black; four spots upon each side of the thorax below, one at the insertion of the abdomen, and a continuous series on its lower part, not, however, extending upon the anal valves, all crimson.

[June,

*Hab.*—Mexico. (Coll. Entom. Society.)

A very beautiful species, closely allied to the *Xenarchus* of Hewitson, but from which its differences, as indicated in the diagnosis, are invariably persistent.

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July 3d.

The President, DR. HAYS, in the Chair.

Twenty-nine members present.

The Chairman made some remarks on *Trichina spiralis*, and exhibited a portion of human flesh infected with the parasite taken from one of five persons who recently died of Trichiniasis in Iowa.

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July 10th.

MR. CASSIN, Vice-President, in the Chair.

Thirteen members present.

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July 17th.

The President, DR. HAYS, in the Chair.

Nine members present.

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July 24th.

MR. VAUX, Vice-President, in the Chair.

Fifteen members present.

Prof. Cope remarked that he had made a few observations on some of the extinct vertebrates of the Mesozoic Red Sandstone, during an examination of the specimens preserved in the collection of Charles M. Wheatley, A. M., at Phoenixville, Pa.

*Rhytidodon carolinensis* (Emmons, usually misspelled *Rutiodon*) appears to be, so far as extant remains are conclusive, a species of *Belodon*, Von Meyer, allied to *B. plieningeri*. One confirmation, the identity of dentition of the Würtembergian and Pennsylvanian species, had been pointed out to him by C. M. Wheatley. The posterior teeth are lenticular in section, nearly broad as high, crenate on both edges; the anterior cylindrical, slender and coarsely fluted; the first represent *Eurydorus serridens*, Leidy, Pr. A. N. S., Phila., 1859, 110, and the latter *Rhytidodon* Emmons.\*

*Clepisaurus pennsylvanicus* Lea, whose affinities have never been indicated, apparently belongs to the same great type as the preceding: while its teeth are without pulp-cavity, as pointed out by Leidy, those of the fangs of *Belodon* are very small.

He was also enabled to announce the discovery of the first undoubted *Labyrinthodon* of these beds. The species, which is of considerable size, is represented by portions of two crania and numerous teeth. It is apparently nearest *Mastodonsaurus* (*Labyrinthodon*) *diagnosticus* Von Meyer, in the proportions of the cranial segments and sculpture.

The largest fragment is eight inches long and eight and one-half wide, and is

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\* Prof. Owen (Palæontology) states that *Cladyodon* Ow. was applied to the same genus as, and is older than the name *Belodon*.